1853MNRAS..13...81.

In a 5-foot 4-inch telescope, having a clear aperture of 3·6 inches, a small plane convex lens of plate-glass, of 6-feet focus, was placed, at a distance of one foot from the eye-glass, with the plane side towards the eye; the diameter of this lens need not be more than an inch, and it can generally be attached with ease to the inner extremity of the sliding eye-tube. This had produced so beneficial a result that a mediocre instrument had been changed into a very good one,—showing, for instance, the inner ring of *Saturn*, defining beautifully the division in the main ring, and dividing double stars well up to a second of space.

The effect of such a lens is three-fold. 1st, It brings back the over-correction of the object-glass; 2dly, being of a glass acting somewhat differently on the coloured spaces, it causes them to overlap, and gives a greater residuum of white light; and, 3dly, upon the principle of the Huyghenian eye-piece, it lessens the spherical aberration by receiving the more refrangible at a less oblique incidence than the less refrangible rays.

It will be obvious, that the nearer the interposed lens is to the object-glass the less should its curvature be, but in proportion as the object-glass is approached the difficulty of centering and defects in curvature become more felt; if, again, the interposed lens be brought very near the eye-glass, less effect upon the aberrations is produced.

Practically, lenses having foci somewhat greater than the object-glass, and placed at a distance from the eye-glass of from one-fourth to one-fifth of the focal length of the object-glass, will be found to answer; and the effect being one of degree, no mathematical accuracy in the amount of curvature is required.

WESTPHAL'S COMET (II. 1852).

This comet has finally disappeared from the observations astronomers. It was first discovered by Dr. Westphal, at Göttingen, on the 24th of July, 1852 (*Ast. Nach.* No. 819, p. 43). In all probability, the last observation of it was one which was made by Sig. Secchi, at Rome, on the 30th December following. A great number of observations of this interesting object will be found in Nos. 820–847 of the *Astronomische Nachrichten*. Elliptic elements have been calculated by Sonntag, which assign to it a period of 60·8 years (*Ast. Nach.* No. 836, p. 321). M. Marth, of the Königsberg Observatory, from observations separated by a wider interval, has deduced elements indicative of a period of 58·35 years (*Ast. Nach.* No. 839, p. 379). A more accurate set of elements will doubtless be obtained by a discussion of the totality of the observations. Some remarks on the physical appearance of the comet by M. Reslhuber of Kremsmünster, and M. Fearnley of Christiania, will be found in Nos. 846–7 of the *Astronomische Nachrichten*. The former of these observers, in a note relative to its appearance on the 26th of August, states that the tail had *a decided*

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1853MNRAS..13...82L

resemblance to a fan. On the 11th of October M. Fearnley perceived a short ray of light, about 1′ in length, issuing from the nucleus in the direction of the tail. It is worthy of remark, that this singular appearance was witnessed on the same night by Mr. Hind, at the observatory of Mr. Bishop, Regent's Park (*Ast. Nach.* No. 839, p. 371). It may be mentioned, also, that phenomena of the same nature were perceived by Kepler in the great comet of 1618 (*De Cometis*, p. 103), and by Sir John Herschel in Halley's Comet (*Ast. Obs. at the Cape of Good Hope*, p. 396). The comet at one time was distinctly visible to the naked eye. It was so seen by M. Reslhuber on the 7th of October. It ceased to be generally visible even in telescopes before the middle of December.* Only *one* observation of a later date exists, so far as is hitherto known, viz. the observation by Sig. Secchi already referred to.

Ascensions droites relatives des 36 *Etoiles fondamentales, déduites des Observations faites à l'Observatoire Royal de Greenwich depuis* 1750 *jusqu'en* 1762, *et depuis* 1836 *jusqu'en* 1850. (Second Partie.) Par M. U. J. Le Verrier.

(*Comptes Rendus, Dec.* 6, 1852.)

In the *Comptes Rendus* for the 5th of April, 1852, there is a brief account of the first part of this important memoir. In the December number M. Le Verrier gives the corrections which should be applied to the right ascension of each star (as computed in the *Tabulæ Regiomontanæ*) for every ten years from 1750 to 1850. These corrections are deduced by the aid of two Greenwich catalogues, one of which is founded on the observations of Bradley and the other on the modern observations extending from 1836 to 1850, executed under the superintendence of the present Astronomer Royal.

One of the most interesting results of M. Le Verrier's researches is the establishment of the *variability* of the proper motion of *Sirius.* This remarkable fact, the original discovery of which is due to Bessel, although its existence has been subsequently disputed, is clearly indicated by the observations of Bradley, and still more so by those upon which the catalogue of 1850 is founded. It appears, also, that the corrections to the place of the star agree both in quantity and direction with the hypothesis which supposes the star to revolve round a large opaque body. This hypothesis more especially accounts for the positions of *Sirius* from 1830 to 1850 with the most perfect accuracy. Indications of variability are also perceptible in the proper motion of *Procyon*, but the results in this case are not sufficiently unequivocal to justify a definitive conclusion on the subject. The following are the corrections above mentioned, which are to be applied according to their signs to the data of the *Tabulæ Regiomontanæ* :—

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* M. Fearnley's observations of the comet come down to Dec. 6; M. Reslhuber's, to Dec. 10; and Mr. Hartnup's, of the Liverpool Observatory, to Dec. 12 (*Ast. Nach.* No. 840, p. 393).

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